

10/18 #11



OIPE

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/907,907A

DATE: 10/21/2002
 TIME: 15:32:33

Input Set : A:\EP.txt
 Output Set: N:\CRF4\10212002\I907907A.raw

ENTERED
 p.6

4 <110> APPLICANT: Fisher, Paul B.
 5 Leszczyniecka, Magdalena
 7 <120> TITLE OF INVENTION: GENES DISPLAYING ENHANCED EXPRESSION DURING CELLULAR
 SENESCENCE AND
 8 TERMINAL CELL DIFFERENTIATION AND USES THEREOF
 11 <130> FILE REFERENCE: A34584-A-PCT-USA (070050.1664)
 C--> 13 <140> CURRENT APPLICATION NUMBER: US/09/907,907A
 C--> 14 <141> CURRENT FILING DATE: 2001-07-16
 16 <150> PRIOR APPLICATION NUMBER: US 09/243,277
 17 <151> PRIOR FILING DATE: 1999-02-02
 19 <160> NUMBER OF SEQ ID NOS: 51
 21 <170> SOFTWARE: FastSEQ for Windows Version 4.0
 23 <210> SEQ ID NO: 1
 24 <211> LENGTH: 674
 25 <212> TYPE: DNA
 26 <213> ORGANISM: Homo sapiens
 28 <220> FEATURE:
 29 <221> NAME/KEY: unsure
 30 <222> LOCATION: 534, 590
 31 <223> OTHER INFORMATION: a or g or c or t
 33 <400> SEQUENCE: 1
 34 aattcggcac gagcacgtct tgaccttcaa cgcaaagtgg aatctttgca agaagagatt 60
 35 gccttttga agaaaactcca cgaagaggaa atccaggagc tgcaggctca gattcaggaa 120
 36 cagcatgtcc aaatcgatgt ggatgtttcc aagcctgacc tcacggctgc cctgcgtgac 180
 37 gtacgtcago aatatgaaag tgtggctgcc aagaacctgc aggaggcaga agaatggtag 240
 38 aaatccaagt ttgctgacct ctctgaggct gccaaccgga acaatgacgc cctgcgccag 300
 39 gcaaaggcagg agtccactga gtaccggaga caggtgcagt ccctcacctg tgaagtggat 360
 40 gcccttaaag gaaccaatga gtcccctggaa cgccagatgc gtgaaatggaa agagaacttt 420
 41 gccgttgaag ctgctaacta ccaagacact attggcccgctc ctgcaggatg agattcagaa 480
 W--> 42 tatgaaggag gaaatggctc gtcaccttcg tgaataccaa gacctgctca atgnataagat 540
 W--> 43 ggccttgac attgagattg ccacctacag gaagctgctg ggaaggcgan gagagcagga 600
 44 tttctctgct cttccaaact tttcctcctt gaccttgagg gaaactaatac tggattcact 660
 45 ccctcttggg tgaa 674
 47 <210> SEQ ID NO: 2
 48 <211> LENGTH: 678
 49 <212> TYPE: DNA
 50 <213> ORGANISM: Homo sapiens
 52 <220> FEATURE:
 53 <221> NAME/KEY: unsure
 54 <222> LOCATION: 566, 669
 55 <223> OTHER INFORMATION: a or g or c or t
 57 <400> SEQUENCE: 2
 58 aattcggcac gagcaggacc caaggaacca aaattgcatt tggatggctc aagggtcg 60
 59 tgtttgaatg gatgttttgtt gatgtttttttt gatgtttttttt gatgtttttttt 120

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/907,907A

DATE: 10/21/2002

TIME: 15:32:33

Input Set : A:\EP.txt

Output Set: N:\CRF4\10212002\I907907A.raw

60 gattactcaa gatgttcagg gtaaaaaactg cctgactaac ttccatggca tggatttac 180
 61 ccgtgacaaa atgtgttcca tggtaaaaa atggcagaca atgattgaag ctcacgttga 240
 62 tgtcaagact accgatgggt acttgctcg tctgttctgt gttggttta ctaaaaaacg 300
 63 caacaatcag atacggaaga cctcttatgc tcagcaccaa caggccgaa aaatccggaa 360
 64 gaagatgtg gaaatcatga cccgagaggt gcagacaaat gacttggaaag aagtggtcaa 420
 65 taaattgatt ccagacaga ttggaaaaga catagaaaag gcttgccaat ctatccatcc 480
 66 tctccatgt gtcttcgtt gaaaagtaaa aatgtgtaa aagccccaaat ttgaatttggg 540
 W--> 67 aaagctcatg gagcttcgtt gtgaanggca gtagttctgg aaaaagccac ttggggacgca 600
 68 aacaggtgtt aaaaatttga acgactgtat gatattgtaa cccagttccaa gaatctgggtt 660
 W--> 69 aaaggcana cttcaat 678
 71 <210> SEQ ID NO: 3
 72 <211> LENGTH: 670
 73 <212> TYPE: DNA
 74 <213> ORGANISM: Homo sapiens
 76 <220> FEATURE:
 77 <221> NAME/KEY: unsure
 78 <222> LOCATION: 656
 79 <223> OTHER INFORMATION: a or g or c or t
 81 <400> SEQUENCE: 3
 82 aattccggcac gaggatgtatg accttcaaga aatgttgc aataaacaac ataaagaaaag 60
 83 cttgaaaaga gtgacccttg ctttaccaga tgatgcgaa actgtttttt caggtttttt 120
 84 aatgtttttt aaaaattctt atgtttttt atcctccccc gaaaaaaagac agggaaaat 180
 85 gaatgtttttt attgtttttt tagaaaaaaa gttttttttt aaaaagccgt ggcaacttca 240
 86 gggggaaatg acagcacaga agagccaga gaacagccctc ctggaggaga cccttacactt 300
 87 tgaccatgtt gtccggatgg cacctgtat tacagagttt accacccttc aacttggaa 360
 88 tatcattttt cagaggatata gagatcaggc ttggatgtat gtagtacgtt aagaaaaacc 420
 89 taaagaggat gcatatgtt ataaaaagcg tttaaccttta gaccatgaga agagttttttt 480
 90 gagccttgcgt gaaattttt aacaggatgtt catcaaaactc aaccaggaaa aaacagcaga 540
 91 agaagaaaaat ccagaacatgt tagaaatttttca gaagatgtat gattcccttct tctttttttt 600
 W--> 92 gatgcctctc aaacttcctt ttatcccttta accgcctgtc cagagattaa agttggggcc 660
 93 aaatctgcca 670
 95 <210> SEQ ID NO: 4
 96 <211> LENGTH: 675
 97 <212> TYPE: DNA
 98 <213> ORGANISM: Homo sapiens
 100 <220> FEATURE:
 101 <221> NAME/KEY: unsure
 102 <222> LOCATION: 530, 534, 650, 651, 655
 103 <223> OTHER INFORMATION: a or g or c or t
 105 <400> SEQUENCE: 4
 106 aattccggcac gagatgtgtt gcaaggcagcc aatgttgc agaaggaaact gggccgcctg 60
 107 ctaaggatgtt ccccttcaagg cataaggcgtt attttcttgtt cagcatcttgc gcttggatgtt 120
 108 ggttagtggggaaatggccca gggcgccgtc agctccatgtt ccagagatgtt cctcttcaac 180
 109 tcagagcaac tgaactgtt gaggatgtt gggcccaac ctgggatttgc tgagcaggaa 240
 110 ttgtgacggggatgtt gggcccaac ctgggatttgc tgagcaggaa 300
 111 agctttgtatgtt gttgtctttaa ggtacattttt taaagatgtt ttttttggcc gggcgccgtt 360
 112 gctcatgtt gtaatcccaat cactttggaa gggccggatgtt ggcggatcac gagggtcttggaa 420
 113 gtttggatgtt atccctgtt gggcccaat acacagtgtt aatccctgtt tactaaaaat aaaaaaaaaattt 480
 W--> 114 agccaggcgtt ggtggcttgc acctgtatgtt ccagctactt gggagctgan gcangagaat 540

RAW SEQUENCE LISTING DATE: 10/21/2002
 PATENT APPLICATION: US/09/907,907A TIME: 15:32:33

Input Set : A:\EP.txt
 Output Set: N:\CRF4\10212002\I907907A.raw

```

115 ggcgtgaacc tggaaaggaag aagttgcagg tgagcccaag attgcgcccc cttgcactcc 600
W--> 116 agctggcaa cagagaaga cttcatctca aaaaaaaaaaaa aaaaaaaactn ncggnggggg 660
117 gccccccgggc cccca 675
119 <210> SEQ ID NO: 5
120 <211> LENGTH: 460
121 <212> TYPE: DNA
122 <213> ORGANISM: Homo sapiens
124 <220> FEATURE:
125 <221> NAME/KEY: unsure
126 <222> LOCATION: 411, 412, 415, 416, 423, 430, 433, 439, 442, 446, 452, 454,
127 456, 457
128 <223> OTHER INFORMATION: a or g or c or t
130 <400> SEQUENCE: 5
131 aattcggcac gagcacctct gtgtctacca tgacccctt cctcacactg acctgtgttc 60
132 cttccctgtt ctctttcta ttaaaaataa gaacctggc agagtgcggc agctcatgcc 120
133 tgaatccca gcacttaggg aggccgagga gggcagatca cgaggtcagg agatcgaaac 180
134 catcctggct aacacggta aacccctct ctactaaaa atacaaaaaa ttagctggc 240
135 gcagaggcac gggcctgttag tcccagctac tcaggaggcg gaggcaggag aatggcgtca 300
136 acccgggagg cggaggttgc agtgagccag gattgtgcga ctgcactcca gcctgggtga 360
W--> 137 cagggtgaaa cgccatctca aaaaataaaa attaaaaaaa aaaaaaaaaa nntcnnggg 420
W--> 138 ggncccgtn ccnatccnc cntatnggg a gnncntnncaa 460
140 <210> SEQ ID NO: 6
141 <211> LENGTH: 445
142 <212> TYPE: DNA
143 <213> ORGANISM: Homo sapiens
145 <400> SEQUENCE: 6
146 aattcggcac gagttctgcc catgctgcag acagtggca agaacaagga ccagggcacc 60
147 tatgaggatt atgtcgaagg acttcgggtt tttgacaagg aaggaaatgg caccgtcatg 120
148 ggtgctgaaa tccggcatgt tcttgtcaca ctgggtgaga agatgacaga ggaagaagta 180
149 gagatgctgg tggcagggca tgaggacagc aatggttga tcaactatga agagctgtc 240
150 cgcattgtgc tgaatggctg aggaccttc cagtcctccc agagtccgtg ccttccctg 300
151 tgtgaatttt gtatctagcc taaagttcc cttagcttcc ttgtctcagc aactttccca 360
152 tcttgtctct cttggatgtat gtttgcgtc agcattcacc aaataaactt gctctctggg 420
153 ccctcggaaa aaaaaaaaaa aaaaa 445
155 <210> SEQ ID NO: 7
156 <211> LENGTH: 666
157 <212> TYPE: DNA
158 <213> ORGANISM: Homo sapiens
160 <220> FEATURE:
161 <221> NAME/KEY: unsure
162 <222> LOCATION: 483, 498, 527
163 <223> OTHER INFORMATION: a or c or g or t
165 <400> SEQUENCE: 7
166 aattcggcac gaggaaatgt gcttggttt aaagaaattc tccttggaa aaaagtatcc 60
167 tcttttaatt ttactccca taagcgtaaa tgcctggaca tagctctgt gcaacctta 120
168 aataaaattgt tttagtgtt ttttgcgtt cagacaaata atgtttaaa gttatcccct 180
169 tgctacttta ctgataaccc ttatcattccct gagacagttt gctaattaa aaatgttagca 240
170 ttccattttgt atttatttct ctcccttgc aaaaagattt tctaatactg cttgtaccag 300
171 ccagagaaag atccaaaaca ctactcagct ctcttgcact gaggaaattt ttccccctac 360
  
```

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/907,907A

DATE: 10/21/2002

TIME: 15:32:33

Input Set : A:\EP.txt

Output Set: N:\CRF4\10212002\I907907A.raw

172 attgactcct ggcctacatc agccaaacctt aaccttggtg gggtttggat ttgatagcca 420
 173 attagttctg tgctggttgc aaagaattga tatttagatg gtttttaata ctcagcagat 480
W--> 174 tgncttcctt tatatgngt ctttttatg ttgcatgtt cttttgntat cagcctgatt 540
 175 ttttgctca gatatgatag ttctgctgtat ggtttggta ttggcagac atatcttcat 600
 176 taagagttt tggaaaactc atcaaattcg atgaatacat tttcttcata acccattgga 660
 177 aatatac 666
 179 <210> SEQ ID NO: 8
 180 <211> LENGTH: 409
 181 <212> TYPE: DNA
 182 <213> ORGANISM: Homo sapiens
 184 <400> SEQUENCE: 8
 185 aattcggcac gagcgaactac ggcggactaa tcttcaactc ctacatactt cccccattat 60
 186 tcctagaacc aggccgacccctg cgacttcctt acgttgacaa tcgagtagta ctcccgattt 120
 187 aagccccat tcgtataata attacatcac aagacgttgc gcactcatga gctgtcccc 180
 188 cattaggctt aaaaacagat gcaattcccg gacgtctaaa ccaaaccact ttcaccgcta 240
 189 cacgaccggg ggtatactac ggtcaatgtt ctgaaatctg tggagcaaac cacagttca 300
 190 tgcccatcg tctagaatta attccctaa aaatcttga aatagggccc gtatttaccc 360
 191 tatagcaccc cctctaccccc ctctagagca aaaaaaaaaa aaaaaaaaaa 409
 193 <210> SEQ ID NO: 9
 194 <211> LENGTH: 667
 195 <212> TYPE: DNA
 196 <213> ORGANISM: Homo sapiens
 198 <220> FEATURE:
 199 <221> NAME/KEY: unsure
 200 <222> LOCATION: 436, 663
 201 <223> OTHER INFORMATION: a or c or g or t
 203 <400> SEQUENCE: 9
 204 aattcggcac gagacaaggc acaaattgttca caaatcaagg aggctacaaa agggcagcct 60
 205 agagggcaga acagagaaaa gctagacaaa atgataagat cagccatatt tcattttgaa 120
 206 tctgcagtgg aaaaaaagcc cacattttagt gtggctcatc tagacctggc aagaatgtat 180
 207 atagaagcag gcaatcacag aaaagctgaa gagaattttc aaaaattgtt atgcatgaaa 240
 208 ccagtggtag aagaaacaat gcaagacata catttccact atggcgggtt tcaggaattt 300
 209 caaaaagaaat ctgacgtcaa tgcaatttac cattattaa aagctataaa aatagaacag 360
 210 gcatcattaa caagggataa aagtatcaat tcttgaaga aattggttt aagggaaactt 420
W--> 211 cggagaaagg cattanactg gaaagcttga gccttccttgg gttcgcttac aaattggaag 480
 212 gaaatatgaa tgaaggccctg gacttactatg agcggccct gacttggct gctgacttt 540
 213 agactctgtt agacaaggc ctttagccca gatatcagcc ctttccattt catttcattt 600
 214 tatgctaaca ttactaattc atctttctg ctactgggtt tcagaacccatataattccct 660
W--> 215 ggnatga 667
 217 <210> SEQ ID NO: 10
 218 <211> LENGTH: 672
 219 <212> TYPE: DNA
 220 <213> ORGANISM: Homo sapiens
 222 <220> FEATURE:
 223 <221> NAME/KEY: unsure
 224 <222> LOCATION: 585
 225 <223> OTHER INFORMATION: a or c or g or t
 227 <400> SEQUENCE: 10
 228 aattcttcctt gtacgattgg ggatataacg ggcttcacta accttcctt ggcattgaaa 60

RAW SEQUENCE LISTING DATE: 10/21/2002
PATENT APPLICATION: US/09/907,907A **TIME:** 15:32:33

Input Set : A:\EP.txt
Output Set: N:\CRF4\10212002\I907907A.raw

229 cttcccccaa atctgatgga cctagaagtc tgctttgtc cctgctggc cccaaagtgc 120
 230 ggcatttttc tctctgttcc ctctctttt aaaaatgtaaa ataaaaaccaa aaatagacaa 180
 231 ctttttcttc agccattcca gcatacgagaa caaaccttat ggaaacagga atgtcaatttgc 240
 232 ttaaatcatt gttctaatta ggttaataga agtccttatg tatgtgttac aagaatttcc 300
 233 cccacaacat cctttatgac tgaagttcaa tgacagtttgc ttgttgttgc taaaggatttgc 360
 234 tctccatggc ctgaatttaag accattagaa agcaccagggc cgtgggagca gtgaccatct 420
 235 gctgactgtt cttgtggatc ttgtgtccag ggacatgggg tgacatgcct cgtatgtgtt 480
 236 agaggggtgga atggatgtgt ttggcgctgc atggatctg gtgcccctct tctcctggat 540
W--> 237 tcacatcccc acccaggggcc cggtttact aagtgtctgc cctanattgg gtcaaaggag 600
 238 gtcatccaac tgactttatc aagtggaaatt gggatataatt tgatataactt ctggctaaca 660
 239 acatgggaaa ag 672
 241 <210> SEQ ID NO: 11
 242 <211> LENGTH: 672
 243 <212> TYPE: DNA
 244 <213> ORGANISM: Homo sapiens
 246 <220> FEATURE:
 247 <221> NAME/KEY: unsure
 248 <222> LOCATION: 585
 249 <223> OTHER INFORMATION: a or c or g or t
 251 <400> SEQUENCE: 11
 252 aattcttcct gtacgattgg ggtatataacg ggcttcacta accttcctta ggcattgaaa 60
 253 cttcccccaa atctgatgga cctagaagtc tgctttgtc cctgctggc cccaaagtgc 120
 254 ggcatttttc tctctgttcc ctctctttt aaaaatgtaaa ataaaaaccaa aaatagacaa 180
 255 ctttttcttc agccattcca gcatacgagaa caaaccttat ggaaacagga atgtcaatttgc 240
 256 ttaaatcatt gttctaatta ggttaataga agtccttatg tatgtgttac aagaatttcc 300
 257 cccacaacat cctttatgac tgaagttcaa tgacagtttgc ttgttgttgc taaaggatttgc 360
 258 tctccatggc ctgaatttaag accattagaa agcaccagggc cgtgggagca gtgaccatct 420
 259 gctgactgtt cttgtggatc ttgtgtccag ggacatgggg tgacatgcct cgtatgtgtt 480
 260 agaggggtgga atggatgtgt ttggcgctgc atggatctg gtgcccctct tctcctggat 540
W--> 261 tcacatcccc acccaggggcc cggtttact aagtgtctgc cctanattgg gtcaaaggag 600
 262 gtcatccaac tgactttatc aagtggaaatt gggatataatt tgatataactt ctggctaaca 660
 263 acatgggaaa ag 672
 265 <210> SEQ ID NO: 12
 266 <211> LENGTH: 669
 267 <212> TYPE: DNA
 268 <213> ORGANISM: Homo sapiens
 270 <220> FEATURE:
 271 <221> NAME/KEY: unsure
 272 <222> LOCATION: 587, 595, 600, 660, 662
 273 <223> OTHER INFORMATION: a or c or g or t
 275 <400> SEQUENCE: 12
 276 aattcctaga caccaatac agtgtggaa tacacaacct actagcctat gtgaaacacc 60
 277 taaaaggcca gaatgaggaa gcccgttccaa gcttaaaaaga agctgaaaac ttaatgcagg 120
 278 aagaacatga caaccaagca aatgtgaggaa gtctgggtac ctggggcaac tttgccttgc 180
 279 ttgttatttca catggcaga ctggcagaag cccagactta cctggacaag gtggagaaca 240
 280 ttgtcaagaa gcttcaaat cccttccgtt atagaatggaa gtgtccagaa atagactgtg 300
 281 aggaaggatg ggccttgctg aagtgtggag gaaagaatta tgaacggggcc aaggcctgt 360
 282 ttgaaaaggt gcttgaagtg gaccctgaaa accctgaatc cagcgctggg tatggatct 420
 283 ctgcctatcg cctggatggc tttaaatttgc ccacaaaaaaaaa tcacaaggcca ttttcttgc 480

RAW SEQUENCE LISTING ERROR SUMMARY
PATENT APPLICATION: US/09/907,907A

DATE: 10/21/2002
TIME: 15:32:34

Input Set : A:\EP.txt
Output Set: N:\CRF4\10212002\I907907A.raw

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:1; N Pos. 534,590
Seq#:2; N Pos. 566,669
Seq#:3; N Pos. 656
Seq#:4; N Pos. 530,534,650,651,655
Seq#:5; N Pos. 411,412,415,416,423,430,433,439,442,446,452,454,456,457
Seq#:7; N Pos. 483,498,527
Seq#:9; N Pos. 436,663
Seq#:10; N Pos. 585
Seq#:11; N Pos. 585
Seq#:12; N Pos. 587,595,600,660,662
Seq#:13; N Pos. 530,585,600,616,654,702
Seq#:16; N Pos. 6,7,14,359,383,449,456,459,473,501,504,515,518,528,532,535
Seq#:16; N Pos. 538,549,562,567,568,577,579,601,603,614,618,622,626,633,636
Seq#:16; N Pos. 641,678,683,692,708
Seq#:17; N Pos. 158,159,161,163,176,182,186,189,191,193,197,199,200,202,203
Seq#:18; N Pos. 479
Seq#:20; N Pos. 556,558,587
Seq#:21; N Pos. 389,396,400,409,418,429,463,468,520,556,575,591,594,613,635
Seq#:21; N Pos. 641,650,666,680,682,700,704
Seq#:23; N Pos. 21
Seq#:24; N Pos. 368,370,372,374,375,376,377,383,386,389
Seq#:26; N Pos. 386,389,390,397,404,409,413,416,424,426,430
Seq#:27; N Pos. 288,298,345,348,352,357,358,368
Seq#:29; N Pos. 495,508,511,526,530
Seq#:30; N Pos. 274,278,283,291,308,314,324,326,327,331,341,355,371,419,461
Seq#:30; N Pos. 531,534,545,558
Seq#:32; N Pos. 342,355,365,368,375,381,385,414,445
Seq#:33; N Pos. 434,459,460
Seq#:36; N Pos. 8
Seq#:37; N Pos. 546,553,573
Seq#:38; N Pos. 444,448,451,460,461,462,468,471,476,490,506,510,514,522,524
Seq#:38; N Pos. 535,550,563,567,568,573,579,587,590,592,593,596,608,615